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Concluded

changed for ΔP . This is the above mentioned equivalency. The condition when this equivalency is established is approximately as follows.

IN THE CLAIMS:

Please replace claims 4, 11, 12, 13, 20-22, 26 and 29-31 as follows:

B2

4. (Twice Amended) An adjustment method for a projection optical system which projects an image of a pattern on a first surface onto a second surface, comprising:

when assembling and adjusting the projection optical system at an assembly location, in case an environment of the assembly location where the projection optical system is assembled and adjusted is different from an environment of a relocated location where the projection optical system is used,

changing a wavelength of an illumination light for illuminating the pattern on the first surface from a predetermined wavelength by an amount according to the environment of the relocated location in advance, and then assembling and adjusting the projection optical system under a condition of the changed wavelength; and

setting the wavelength to the predetermined wavelength when the projection optical system is used in the relocated location.

B3

11. (Twice Amended) The adjustment method for a projection optical system according to Claim 4, wherein when the projection optical system is used in the relocated location, the wavelength of the illumination light is set to a wavelength according to the environment of the assembly location.

12. (Twice Amended) An exposure method for illuminating a pattern formed on a first surface by an illumination light and projecting an image of the pattern onto a second surface via a projection optical system, comprising:

a first step of determining information on a change amount of predetermined image formation characteristics of the projection optical system caused by a predetermined

factor;

a second step of selecting at least one of a first technique for adjusting the predetermined image formation characteristics by changing a wavelength of the illumination light and a second technique for adjusting the predetermined image formation characteristics using a method different from the first technique; and

a third step of correcting the change amount of the predetermined image formation characteristics caused by the predetermined factor using the at least one selected technique in the second step.

13. (Twice Amended) The exposure method according to claim 12, wherein in the first step, the change amount of the predetermined image formation characteristics is determined based on the result of measurement of an installation environment of the projection optical system.

20. (Twice Amended) The exposure method according to Claim 19, wherein in the second step, both the first technique and the second technique are selected, and in the third step, the residue of the change amount of the predetermined image formation characteristics which the first technique could not completely correct is corrected by the second technique after executing the first technique.

21. (Twice Amended) The exposure method according to Claim 13, wherein when the change amount of the installation environment is greater than or equal to a predetermined value, the first technique is selected in the second step.

22. (Twice Amended) An exposure method using a projection exposure apparatus for illuminating a pattern formed on a first surface by an illumination light and projecting an image of the pattern onto a second surface via a projection optical system, comprising:

measuring an installation environment of the projection optical system to determine a change amount of the installation environment, and

B4
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changing a wavelength of the illumination light according to the change amount of the installation environment while the projection exposure apparatus is executing a predetermined preparation operation for projecting the image of the pattern onto the second surface.

B5

26. (Twice Amended) A projection exposure apparatus comprising an illumination optical system which illuminates a mask pattern by an illumination light and a projection optical system which projects the image of the mask pattern onto a substrate, the projection exposure apparatus comprising:

a measurement device which determines information on a change amount of predetermined image formation characteristics of the projection optical system caused by a predetermined factor;

a first image formation characteristics adjustment system which is electrically connected to the measurement device and adjusts the predetermined image formation characteristics by a first technique for changing a wavelength of the illumination light; and

a second image formation characteristics adjustment system which is electrically connected to the measurement device and adjusts the predetermined image formation characteristics by a second technique which is different from the first technique,

wherein at least one of the first image formation characteristics adjustment system and the second image formation characteristics adjustment system is selected, and the at least one selected system is used to correct the change amount of the predetermined image formation characteristics caused by the predetermined factor.

B6

29. (Twice Amended) The projection exposure apparatus according to Claim 28, wherein the projection exposure apparatus selects both the first image formation characteristics adjustment system and the second image formation characteristics adjustment

system, and allows the second image formation characteristics adjustment system to adjust the residue of the change amount of the predetermined image formation characteristics which the first image formation characteristics adjustment system could not correct.

30. (Twice Amended) The projection exposure apparatus according to Claim 26, wherein the measurement device determines the change amount of the installation of the projection optical system as the information, and when the change amount of the installation environment is a predetermined value or more, the projection apparatus selects the first image formation characteristics adjustment system.

31. (Twice Amended) A projection exposure apparatus comprising an illumination optical system which illuminates a mask pattern by an illumination light, and a projection optical system which projects the image of the mask pattern onto a substrate, the projection exposure apparatus comprising:

a wavelength adjusting device which changes a wavelength of the illumination light; and

an installation environment measurement system which measures the installation environment of the projection optical system and determines a change amount of the installation environment,

wherein the wavelength adjusting device changes the wavelength of the illumination light according to the change amount of the installation environment while the projection exposure apparatus is executing a predetermined preparation operation for projecting the image of the pattern onto the substrate.

Please add the following new claims 36-42:

--36. (New) The exposure method according to Claim 13, wherein the second technique is selected in case that the change amount of the predetermined image formation characteristics determined in the first step is generated in a predetermined period of time.--

--37. (New) The exposure method according to Claim 36, wherein the predetermined period of time is a period for processing one lot.--

--38. (New) The exposure method according to Claim 18, wherein the first technique is selected in the second step.--

--39. (New) The exposure method according to Claim 12, wherein the projection optical system is comprised of a single glass material, and the first technique is selected in the second step.--

--40. (New) The projection exposure apparatus according to Claim 26, wherein the projection exposure apparatus selects the second image formation characteristics adjustment system in case that the change amount of the predetermined image formation characteristics determined by the measurement device is generated in a predetermined period of time.--

--41. (New) The projection exposure apparatus according to Claim 26, wherein the predetermined factor is irradiation of the illumination light to the projection optical system, and the projection exposure apparatus selects the first image formation characteristics adjustment system.--

--42. (New) The projection exposure apparatus according to Claim 26, wherein the projection optical system is comprised of a single glass material, and the projection exposure apparatus uses the first image formation characteristics adjustment system.--

REMARKS

Claims 1-8 and 10-42 are pending. By this Amendment, the title, specification and claims 4, 11, 12, 13, 20-22, 26 and 29-31 are amended and claims 36-42 are added. No new matter is added.

The attached Appendix includes a marked-up copy of each rewritten paragraph (37 C.F.R. §1.121(b)(1)(iii)) and claim (37 C.F.R. §1.121(c)(1)(ii)).